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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/653,782	09/01/2000	Paul R. Marshall	PHB 34,386	5639

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EXAMINER	
CHOW, CHARLES CHIANG	

ART UNIT	PAPER NUMBER
2685	10

DATE MAILED: 05/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/653,782	MARSHALL ET AL.	
	Examiner	Art Unit	
	Charles Chow	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,8,10 and 11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,8,10 and 11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Office Action for Amendment
Received on 2/10/2004

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the descriptive labels in Fig. 2 and Fig. 3 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Besharat et al. (US 6,219,540 B1) in view of Deluca et al. (US 5,144,296).

Regarding **claim 1**, Besharat et al. ("Besharat") teaches a method of operating a receiver (104 for signal from transmitter 902, col. 2, lines 35-45, abstract, figure in cover page). Besharat teaches the energizing the receiver, detecting the presence of a carrier signal (quality detector 154 for detecting out-of-range, in-range, signal for controlling the power to receiver 104, quality indicator 154, Fig. 1, abstract, col. 6, lines 19-41; col. 12, lines 1-8; the presence of acceptable transmission, col. 7, lines 36-38).

Besharat teaches the de-energizing the receiver if the carrier signal is not detected (the out-of-range detection, causing suspending of power supply to receiver 104, abstract; the absence of acceptable transmission, to generate out or range signal, col. 7, lines 38-42; col. 9, lines 34-36; col. 11, lines 18-20; the out-of-range detection and disable power using power control means 156 in col. 2, line 63 to col. 3, line 17). Besharat teaches the loss of signal is out-of-range (col. 9, lines 1-5 and col. 10, lines 16-19), as the carrier is not detected.

Besharat teaches the maintaining energisation of the receiver if the carrier signal is detected (the maintaining power supply to receiver 104 to enable in-range detection signal transmission). Besharat also teaches the in-range detection, to stop timer OOR 138, and to enable power supply to receiver 104 (col. 2, line 6 to col. 3, line 17).

Besharat fails to teach the detecting if received signal is decodable, de-engerising the receiver if the signal the signal is not decodable, and if it is decodable, decoding the signal. However, Deluca et al. (Deluca) teaches the detecting if received signal is decodable, de-engerising the receiver if the signal the signal is not decodable, and if it is decodable, decoding the signal, (the decoding means for decoding the received address code works, the battery saving means for responsive to the decoding means for suspending the supply of power to the receiving means, col. 13, line 62 to col. 14, line 20; the battery saving means is further responsive to said decoding means for maintaining the supply of power to said receiving means upon the detection by said distinguishing means of received message code words, col. 14, lines 21-26; the strong signal, weak signal in abstract). (Deluca) teaches the de-energising the receiver if the signal is not decodable, the de-energising the receiver by conserving power (step 718, Fig. 7), the microcomputer (col. 13, line 26), the comparing of the error counting to a

maximum error (step 726, Fig. 7), during the decoding of the first code word, second word address (col. 13, lines 43). The adaptive battery saving controller utilizes a received signal strength indicator together with an address decoder to enable the early termination of the supply power to the receiver either the detection of a message code word which is not intended for the receiver or a address decoding error (col. 13, lines 44-54), for the de-energizing the receiver if the signal strength is present (col. 12, lines 11-18, steps 706; col. 12, lines 55-58), and the first, second code word (above), has error, to de-energize and terminating of the power supply to a receiver. Deluca teaches the continuing to maintain the supplying of power to receiver during time interval 332 to allowing the receiver to receive the first bit of the second code word of the frame of a decoder, until a determination is made as to whether acceptable signal quality has been obtained and to de-energize the receive if the carrier is determined to be present and the signal quality is not acceptable (col. 5, line 63 to col. 6, line 7; time intervals 338, 340, 344, 348, 350 in col. 6, lines 22-62),the signal quality, signal quality indication (abstract, col. 4, lines 5-13), the coupled to the receiving means 402, is a received signal strength indicator (RSSI) circuit 404, which functions as a signal quality detecting means and the RSSI circuit generates a quality indication signal indicating the received signal quality when the received signal strength is equal to or greater than a predetermined signal magnitude (col. 7, lines 23-37). Deluca teaches improved technique for efficiently, adaptively controlling the battery power for battery power saving (col. 1, lines 6-11, col. 2, lines 8-44). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Besharat, and to include Deluca's adaptive, efficiently,

battery power saving, such that receiver could reduce the battery power consumption, by adaptively, efficiently, suspending the battery power to receiver.

Regarding **claim 2**, Besharat has shown above for the detecting of the presence of a carrier which is in-range (col. 4, line 66 to col. 2, line 7) for the in-range signal is the detected acceptable signal (col. 7, lines 20-26).

Regarding **cliam3**, Deluca teaches measuring signal quality as a measure for determining if a signal is decodable (battery saving means for suspending supply power in response to quality detecting means, col. 13, line 62 to col. 14, line 20).

Regarding **claim 4**, Besharat teaches a communications system comprising a primary station (transmitter 902) having for transmitting a signal and at least one secondary station (100) having a receiver (104) for receiving signals from primary station (col. 2, lines 35-45, Fig. 9), the receiver comprising receiving means (antenna 102, signal quality detector 154, processor 106, Fig. 1) for detecting quality. Besharat has shown above the power control means (156) for de-energizing the receiver if the presence of the signal is not detected (the out-of-range detection and disable power using power control means 156 in col. 2, line 63 to col. 3, line 17).

Beshart fails to teach the if the presence of the signal is detected and the detected signal is not decodable, for de-energising the receiver. However, Deluca teaches the if the presence of the signal is detected and the detected signal is not decodable, for de-energising the receiver (the decoding means for decoding the received address code works, the battery saving means for responsive to the decoding means for suspending the supply of power to the receiving means, col. 13, line 62 to col. 14, line 20; the battery saving means is further responsive to said

decoding means for maintaining the supply of power to said receiving means upon the detection by said distinguishing means of received message code words, col. 14, lines 21-26; the strong signal, weak signal in abstract). Deluca teaches improved technique for efficiently, adaptively controlling the battery power for battery power saving (col. 1, lines 6-11, col. 2, lines 8-44). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Besharat, and to include Deluca's adaptive, efficiently, battery power saving, such that receiver could reduce the battery power consumption, by adaptively, efficiently, suspending the battery power to receiver.

Regarding **claim 5**, Deluca teaches the means for determining RSSI (404, Fig. 4) is coupled to the signal receiving means (402).

Regarding **claim 8**, Besharat teaches a receiver circuit operable to produce a received signal from a channel (abstract), a demodulator circuit coupled to the receiver circuit (106), the demodulator operable to produce a demodulated signal from the received signal (, col. 2, lines 48-62), a signal quality indicator circuit (154) coupled to the demodulator circuit (106), a microprocessor (signal processor 106) coupled to the receiver (104), as shown in claim 1 above.

Besharat fails to teach other claimed features. However, Deluca teaches a decoder circuit (412) coupled to the to the demodulator circuit (inside receiving means 402, for removing modulation to output 406), the received signal strength indicator circuit (404), and the decoder circuit (412); wherein the microprocessor (microcomputer, col. 8, lines 34-36, col. 10, lines 28-53) is operable to energize and de-energize the receiver circuit (battery saving means, 422); determine the presence of a carrier (strong, weak signal, abstract) with a carrier

detect false rate (bit error rate in col. 7, line 44), based, at least in part, on the power in the channel, and to determine an acceptable signal quality with a signal quality false rate (bit error rate), based, at least in part, on an output of the signal quality indicator circuit (the quality detecting means in col. 14, lines 1-6); wherein the microprocessor (MC68HC05) is operable to energize the receiver circuit for a first period of time (col. 5, line 63 to col. 6, line 7), and if the carrier is determined to be present, to then maintain the receiver in the energized state until a determination is made as to whether acceptable signal quality has been obtained (time interval 336 to enable decoder, col. 5, lines 63 to col. 6, line 7; the hard bit error quality, during time interval 338, 340, 344,350 in col. 6, lines 25-62) de-energize the receiver if the carrier is determined to be present and the signal quality is not acceptable (based on the error count to generate first control signal to suspend the supply of power to receiver, col. 17, line 1 to col. 18, line 4). Deluca teaches improved technique for efficiently, adaptively controlling the battery power for battery power saving (col. 1, lines 6-11, col. 2, lines 8-44). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Besharat, and to include Deluca's adaptive, efficiently, battery power saving, such that receiver could reduce the battery power consumption, by adaptively, efficiently, suspending the battery power to receiver.

Regarding **claim 10**, Besharat teaches the microprocessor is operable to de-energize the receiver circuit if the carrier is determined to not be present, without performing a signal quality determination (the out-of-range detection, causing suspending of power supply to receiver 104, abstract; the absence of acceptable transmission, to generate out or range signal,

col. 7, lines 38-42; col. 9, lines 34-36; col. 11, lines 18-20; the out-of-range detection and disable power using power control means 156 in col. 2, line 63 to col. 3, line 17).

Regarding **claim 11**, Besharat teaches a metering unit (signal quality detector 154) coupled to the microprocessor (108, Fig. 1). Deluca teaches an decoder circuit (address decoder 412) coupled to the microprocessor ((MC68HC05, col. 8, lines 34-36). Regarding a radio transmitter circuit coupled to the encoder circuit, it is well known in the technology for coupling the encoder to a radio transmitter.

3. Applicant's arguments with respect to claims 1-5, 8, 10-11 have been considered but are moot in view of the new ground(s) of rejection.

Regarding applicant's amendment based on the no teachings for the de-energizing the receiver if presence of the signal is detected and the detected signal is not decodable; the microprocessor is operable to energize the receiver for a first period of time, and if the carrier is determined to be present, to then maintain the receiver in the energized state until a determination is made as to whether acceptable signal quality has been obtained and to de-energize the receive if the carrier is determined to be present and the signal quality is not acceptable, the ground of rejection has been changed to include Deluca et al (US 5,144, 296). Deluca et al. (Deluca) teaches the de-energising the receiver if the signal is not decodable, the de-energising the receiver by conserving power (step 718, Fig. 7), the microcomputer (col. 13, line 26), the compares the error counting to a maximum error (step 726, Fig. 7), during the decoding of the first code word, second word address (col. 13, lines 43). The adaptive battery saving controller utilizes a received signal strength indicator together with

an address decoder to enable the early termination of the supply power to the receiver either the detection of a message code word which is not intended for the receiver or a address decoding error (col. 13, lines 44-54), for the de-energizing the receiver if the signal strength is present (col. 12, lines 11-18, steps 706; col. 12, lines 55-58), and the first, second code word (above), has error, to de-energize and terminating of the power supply to a receiver. Deluca teaches the continuing to maintain the supplying of power to receiver during time interval 332 to allowing the receiver to receive the first bit of the second code word of the frame of a decoder, until a determination is made as to whether acceptable signal quality has been obtained and to de-energize the receive if the carrier is determined to be present and the signal quality is not acceptable (col. 5, line 63 to col. 6, line 7; time intervals 338, 340, 344, 348, 350 in col. 6, lines 22-62), the signal quality, signal quality indication (abstract, col. 4, lines 5-13), the coupled to the receiving means 402, is a received signal strength indicator (RSSI) circuit 404, which functions as a signal quality detecting means and the RSSI circuit generates a quality indication signal indicating the received signal quality when the received signal strength is equal to or greater than a predetermined signal magnitude (col. 7, lines 23-37).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (703)-306-5615.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (703)-305-4385.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Charles Chow C.C.

April 20, 2004.

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